Listing of Claims

1. (Original) A method of magnetic resonance imaging comprising the steps of:

a) providing a magnetic field within an imaging volume,

b) moving a subject continuously along a predetermined path,

c) defining a sub-volume of the imaging volume, together with the subject, the sub-volume being selected such that the time of movement of the sub-volume within the imaging volume is sufficient for magnetic resonance image data acquisition with a predefined resolution,

d) performing a step of magnetic resonance image data acquisition for the sub-volume,

e) defining a subsequent sub-volume which neighbours the sub-volume on the predetermined path to perform a subsequent step of magnetic resonance image data acquisition for the subsequent sub-volume.

2. (Original) The method of claim 1, whereby a three-dimensional imaging method is used for the step of magnetic resonance image data acquisition for the sub-volume.

3. (Currently Amended) The method of claims 1 ~~or 2~~, whereby a multislice imaging method is used for the step of magnetic resonance image data acquisition for the sub-volume, the sub-volume containing a stack of two dimensional slices along the predetermined path.

4. (Currently Amended) The method of ~~any one of the preceding~~ claims 1~~, 2 or 3~~ the sub-volume having an extension along the predetermined path between 3 and 7 cm~~, preferably 5 cm~~.

5. (Currently Amended) The method of ~~any one of the preceding~~ claims 1 ~~to 4~~, the speed of movement being between 0,5 and 5 mm per second~~, preferably between 1 and 2,5 mm per second~~.

6. (Currently Amended) The method of ~~any one of the preceding~~ claims 1 ~~to 5~~, whereby the magnetic resonance image data acquisition is performed by means of a parallel imaging technique.

7. (Original) The method of claim 6 whereby a SENSE-type parallel imaging technique is used.

8. (Currently Amended) The method of ~~any one of the preceding~~ claims 1 ~~to 7~~, the magnetic resonance image data acquisition being cyclically repeated, whereby one repetition is performed for each one of the sub-volumes.

9. (Currently Amended) The method of ~~any one of the preceding~~ claims 1 ~~to 8~~, the sub-volumes having a first extension along the predetermined path, the imaging volume having a second extension along the predetermined path, the second extension being at least twice the first extension.

10. (Currently Amended) A computer readable medium containing instructions for controlling a computer system ~~A computer program product, such as a digital storage medium,~~ for magnetic resonance imaging comprising ~~program means to perform~~ the steps of:

- defining a sub-volume of an imaging volume provided by a magnetic field, continuously moving a sub-volume along a predetermined path together with a subject, the sub-volume being selected such that the time of movement of the sub-volume within the imaging volume is sufficient for magnetic resonance image data acquisition with a preferred resolution,
- defining a subsequent sub-volume which neighbours the sub-volume on the predetermined path to perform a subsequent step of magnetic resonance image data acquisition.

11. (Currently Amended) The computer readable medium ~~program product~~ of claim 10, the program means being adapted to be employed for a parallel imaging technique.

12. (Original) A magnetic resonance imaging device comprising:

- means for providing a magnetic field within an imaging volume,
- means for moving a subject continuously along a predetermined path,
- a control unit for generating of control signals for magnetic resonance image data acquisition within a sub-volume (j=5, j=6) of the imaging volume, the sub-volume being moved along the predetermined path together with the subject, the sub-volume being selected such that the time of movement of the sub-volume within the imaging volume is sufficient for magnetic resonance image data acquisition with a predefined resolution and for subsequent magnetic resonance image data acquisition within a subsequent sub-volume which neighbours the sub-volume on the predetermined path.

13. (Original) The magnetic resonance imaging device of claim 12, the means for moving being adapted to move the subject with a speed of 0~~,~~.5 to 5 mm per second~~, preferably 1 to 4 mm per second~~.

14. (Currently Amended) The magnetic resonance imaging device of claim~~s~~ 12~~ or 13~~ further comprising means for a parallel imaging technique based on simultaneous reception through multiple receive channels.

15. (Currently Amended) The magnetic resonance imaging device of ~~any one of the preceding~~ claim~~s~~ 12~~ to 14~~, the control unit being adapted to perform cyclic repetitions of the magnetic resonance image data acquisition.

16. (Currently Amended) The magnetic resonance imaging device of claim~~s~~ 12~~ to 15~~, the sub-volumes having a first extension along the predetermined path and the imaging volume having a second extension along the predetermined path, the second extension being at least twice the first extension.

17. (Currently Amended) The magnetic resonance imaging device of ~~anyone of the preceding~~ claim~~s~~ 12~~ to 16~~, the predetermined path being a straight line and the means for providing a magnetic field comprising a cylindrical magnet.

18. (Currently Amended) The magnetic resonance imaging device of ~~anyone of the preceding~~ claims ~~12 to 16~~, the predetermined path being curved and the means for providing a magnetic field comprising an open magnetic resonance system~~, such as a C-magnet~~.